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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,390	01/23/2001	Ivan Wu	JCLA6877	2449

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EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,390

Applicant(s)

WU ET AL.

Examiner

HOAN C. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features:

- "the pixel structures has shaped of quadrate" in claim 4;
- "pixel structure comprises a baguette" in claim 5 ;
- "the V-like structure has tip angle of 90 degrees (respected to which surface?)" in claim 6;
- "an second substrate, parallel to the first substrate, having a plurality of openings, wherein the openings are aligned along a direction from a tip of the V-like structures and vertical to a long edge of the baguette pixel structure" in claim 7;

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagae et al. (US5995190A).

In regard to claims 1-3, Nagae et al. teach (Figs. 8A-B) a pixel structure for a liquid crystal display comprising

- a first substrate, with respect to a pixel, having a W-like extruding structure composed of two V-like structures formed on a surface of the first substrate;
- a second substrate, parallel to the first substrate, having a plurality of openings, wherein the openings are aligned along a direction from a tip of the V-like structures to an edge of the pixel structure;
- a liquid crystal layer located between the first substrate and the second substrate,

wherein

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- the W-like extruding structure abuts the liquid crystal layer (col. 4 lines 14-18 and col. 11 col. 31-52).
- a shape of the openings comprises an isosceles triangle, and sides of the isosceles triangle are parallel to sides of the V-like structure (Figs. 8A-B) according to claim 2.
- the aligned direction of the openings is parallel to the central line of the V-like structure (Figs 8A-B) according to claim 3.

In regard to claim 6, Nagae et al. (Fig. 30B) further teach a pixel structure for a liquid crystal display, wherein the V-like structure has a tip angle of 90 degrees.

2. Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomita et al. (US005926246A).

Tomita et al. teach (Fig. 8A, col. 10 lines 34-49) a baguette pixel structure comprising

- a first substrate with alignment layer 14 (alignment layers formed on substrates can be considered as a part of substrates) having a W-like extruding structure composed of two V-like structures (or several V-like structures) formed on a surface of the first substrate for aligning liquid crystal molecules;
- a second substrate with alignment layer 14, parallel to the first substrate, having a plurality of openings, wherein the openings are aligned along a direction from a tip of the V-like structures and vertical to a long edge of the baguette pixel structure for rotating liquid crystal molecule 90° comparing to the liquid crystal

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alignment on the first substrate to modulate light pass through liquid crystal molecules;

- a liquid crystal layer 11a located between the first substrate and the second substrate, wherein the W-like extruding structure abuts the liquid crystal layer.

wherein a shape of the opening comprises a triangle, wherein an angle of the triangle is pointing to a tip of the V-like structures according to claim 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagae et al. (US5995190A).

Nagae et al. also further teach (Fig. 24) a pixel structure for a liquid crystal display, wherein the pixel structure having a shape of quadrate comprises a baguette for selecting various shape that would be at least an obvious modification (i.e., not patently distinct) to one of ordinary skill in the art for claims 4 and 5 see Fig. 24.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Yasuhiro et al. (US6330049B1) disclose a liquid crystal display device wherein the inclined section is formed and shaped such that a liquid crystal region adjacent said inclined section includes a substantially flat or planar base portion that extends from a position adjacent said inclined section to at least a center of said liquid crystal region, and wherein said base portion has a width at least as great as a width of a bottom portion of said partition wall.
- Bradshaw et al. (US6118510A) disclose a liquid crystal display device having walls with triangle shape.
- Kurihara et al. (US6335780B1) disclose a LCD with protrusion structures for axially symmetrically aligning liquid crystal in regions smaller than $70\mu\text{m} \times 70\mu\text{m}$.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SIKES L WILLIAM can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8178 for regular communications and (703) 308-5841 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN
Examiner
Art Unit 2871

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August 12, 2002


TOANTON
PRIMARY EXAMINER